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Application No. 09/786,440

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Docket No.: 03634/0001360-USO

Supplemental Amendment dated November 7, 2006

AMENDMENTS TO THE CLAIMS

1-54. (Cancelled)

55. (Currently Amended) A ~~computerized~~ method,
for ~~determining manufacturing parts requirements to produce~~ an article of manufacture having a plurality of structural design variants in accordance with at least one order specifying particular design options, the article of manufacture being described in a bill of materials BOM containing a plurality of position variant definitions, each position variant definition being assigned to a particular position corresponding to a physical location in the article of manufacture, each position variant definition further identifying a specific part and including a code rule indicating when the identified part should be used at the location corresponding to the particular position, ~~wherein each code rule is being~~ a logical statement including one or more unique code rule elements; the method comprising the steps of:

extracting unique code rules from the BOM;

evaluating each unique code rule in accordance with the design options for each order;

mapping the evaluations of the unique code rules to the corresponding code rules in the position variant definitions in the BOM; ~~and~~

determining the appropriate position variant for each position in accordance with the mapped code rule evaluations; ~~and~~

manufacturing the article of manufacture based on the determined position variants for the respective particular positions corresponding to the respective physical locations in the article of manufacture, wherein:

each code rule comprises at least one code rule element corresponding to a selectable design option; and

the orders are contained in an order matrix which cross references each order against every code rule element,

wherein each position variant definition has an associated validity period and the step of extracting unique code rules comprises extracting unique code rules only from those position variant definitions which have not expired at a specified start time based on the validity period,

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wherein a sequence of orders in the order matrix indicates a time sequence of manufacture, the method further comprising the steps of determining, in accordance with the specified start time, a build time when the article of manufacture associated with each particular order will be manufactured;

the step of mapping comprising mapping the evaluations of the unique code rules to the corresponding code rules in the position variant definitions only for those particular orders which have a build time within the validity period of the respective position variant.

56-60. (Cancelled)

61. (Currently Amended) System,

for use in assisting in the manufacture of manufacturing an article of manufacture having a plurality of structural design variants, the system comprising:

a computer having a processor and a memory;

the memory including information representing a bill of materials BOM containing a plurality of position variant definitions, each position variant definition being assigned to a particular position corresponding to a location in the article of manufacture, each position variant definition further identifying a specific part, and including a code rule indicating when the position variant definition should be selected and thereby when the identified part should be used at the corresponding location;

the memory further including information representing at least one order specifying particular design options which define a particular design variant of the article; wherein each code rule for a particular design variant is a logical statement including one or more unique code rule elements;

the processor being configured to:

(a) extract unique code rules from the BOM and evaluate the code rules for each position variant definition in accordance with the respective design options for each order to identify an appropriate part for use in each location of the corresponding particular design variant of the article; and

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(b) produce an output indicating for each order the appropriate parts for use in the corresponding particular design variant of the article;

the particular design variant defined by a specific order corresponding to the article of manufacture using the parts indicated for that specific order;

wherein the processor is configured to evaluate the code rules by:

mapping the evaluations of the unique code rules to the corresponding code rules in the position variant definitions in the BOM; and

determining the appropriate position variant for each position in accordance with the mapped code rule evaluations;

wherein each position variant definition has an associated validity period; and

the processor is configured to extract unique code rules only from those position variant definitions which are not expired at a specified start time in accordance with the associated validity period;

wherein:

the orders are contained in an order matrix stored in memory wherein the sequence of orders in the order matrix indicates a time sequence of manufacture of said orders;

the processor being further configured to:

determine, in accordance with the specified start time, a build time when the article of manufacture associated with each particular order will be manufactured; and

map the evaluations of the unique code rules to the corresponding code rules in the position variant definitions only for those particular orders which have a build time within the validity period of the respective position variants;

control the manufacturing of the article based on the determined position variants for the respective particular positions corresponding to the respective physical locations in the article of manufacture.

62-66. (Cancelled)

67. (Currently Amended) A programmable medium

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containing a computer program configured for determining manufacturing parts requirements to produce an article of manufacture having a plurality of structural design variants in accordance with at least one order specifying particular design options, the article of manufacture being described in a bill of materials BOM containing a plurality of position variant definitions, each position variant definition being assigned to a particular position corresponding to a location in the article of manufacture, each position variant definition further identifying a specific part and including a code rule indicating when the identified part should be used at the location corresponding to the associated position, the computer program when executed performing the following steps:

extracting unique code rules from the BOM;

evaluating each unique code rule in accordance with the design options for each order;

mapping the evaluations of the unique code rules to the corresponding code rules in the position variant definitions in the BOM; ~~and~~

determining the appropriate position variant to select for each position in accordance with the mapped code rule evaluations, wherein each code rule comprises at least one code rule element corresponding to a selectable design option and the orders are contained in an order matrix which cross references each order against the code rule elements; and

controlling the manufacturing of the article of manufacture based on the determined position variants for the respective particular positions corresponding to the respective physical locations in the article of manufacture,

wherein each position variant definition has an associated validity period and the program module extracting unique code rules comprises a program module for extracting unique code rules only from those position variant definition which have not expired at a specified start time in accordance with the validity period,

wherein a sequence of orders in the order matrix indicates a time sequence of manufacture of said orders, wherein the computer program further comprises the steps of:

determining, in accordance with the specified start time, a build time when the article of manufacture associated with each particular order will be manufactured; and

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mapping the evaluations of the unique code rules to the corresponding code rules in the position variant definitions only for those particular orders which have a build time within the validity period of the respective position variant definition.

68. (Cancelled)

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